

AMENDMENTS TO THE CLAIMS

The following is a complete listing of revised claims with a status identifier in parenthesis.

LISTING OF CLAIMS

1. (Currently Amended) A flip chip package comprising:

a semiconductor chip having a first side and a second side opposing the first side;

a circuit substrate electrically connected to the first side of the semiconductor chip;

a protective cap disposed over the second side of the semiconductor chip, the protective cap including at least one portion extending beyond an edge of the semiconductor chip, the portion including a groove have a fan-shaped cross-section such that a part of the groove further from the second side of the semiconductor chip is wider in cross-section than a part of the groove closer to the second side of the semiconductor chip; and

a molding resin layer sealing the electrical connection between the semiconductor chip and the circuit substrate and filling the fan-shaped groove in the cap.

2. (Original) The flip chip package of claim 1, wherein the protective cap includes metal.

3. (Original) The flip chip package of claim 2, wherein the protective cap is made of one selected from the group consisting of copper (Cu), copper alloy, aluminum (Al), and aluminum alloy.

4. (Original) The flip chip package of claim 1, further comprising:
a plurality of solder bumps to electrically connect the semiconductor chip and the circuit substrate.

5. (Canceled)

6. (Withdrawn) The flip chip package of claim 1, further comprising:
a plurality of bonding wires to electrically connect the semiconductor chip and the circuit substrate.

7. (Canceled)

8. (Original) The flip chip package of claim 1, further comprising:
an adhesion layer disposed between the second side of the semiconductor chip and the protective cap.

Claims 9-15. (Canceled)

16. (Original) The flip chip package of claim 1, further comprising:

solder balls formed on a surface of the circuit substrate opposite a surface to which the circuit substrate is electrically connected to the semiconductor chip.

Claims 17-30. (Canceled)

31. (New) The flip chip package of claim 1, wherein the protective cap includes more than one portion extending beyond an edge of the semiconductor chip, and each portion includes a groove having a fan-shaped cross-section; and the molding resin layer fills each groove.

32. (New) The flip chip package of claim 1, wherein the groove is formed through the protective cap.

33. (New) The flip chip package of claim 1, wherein the groove is not formed through the protective cap.